



# *Tuta absoluta*

## Technical guide

### • What is *Tuta absoluta* ?

The **leafminer**, *Tuta absoluta* (Lepidoptera; moth), is a major pest in tomato. It thrives also in eggplant, cucumber and french bean.

Tomato production loss can reach up to 50-100% if it is not well managed.


**ENGLISH**


# • Damage and Symptoms

## LEAVES:

Irregular leaf mines by larvae with larger patches to whole leaf damage, reduced photosynthetic capacity



### REMINDER:

What is the difference? Left photo shows symptom of another tomato leafminer, *Liriomyza* sp. (Diptera; fly) with narrower mines than *Tuta absoluta*.

## FRUITS:

Puncture marks, chewed out areas, entry for secondary pathogen, fruit malformation



# • Management Strategies

## Integrated Pest Management (IPM)

for effective and sustainable control of *Tuta absoluta*

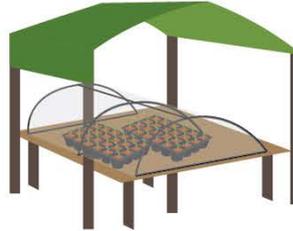
### PREVENTION: How to avoid?



Check crop field and pest history



Crop rotation



Net nursery for seedlings



Avoid high Nitrogen use

### MONITORING: How to check presence?



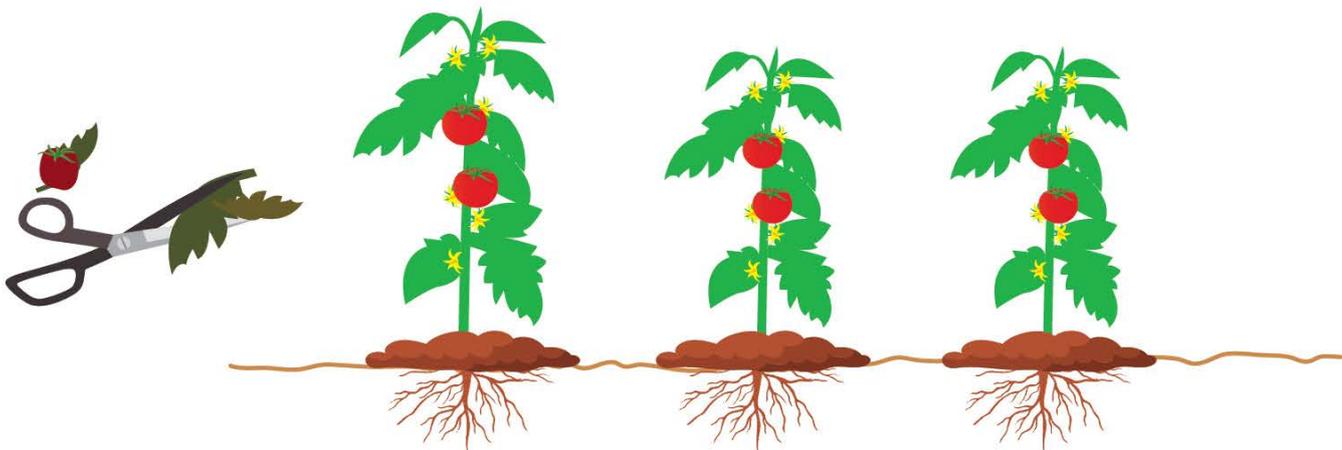
Daily monitoring of the field



Use of sticky traps, or sex pheromone lures (before transplanting)

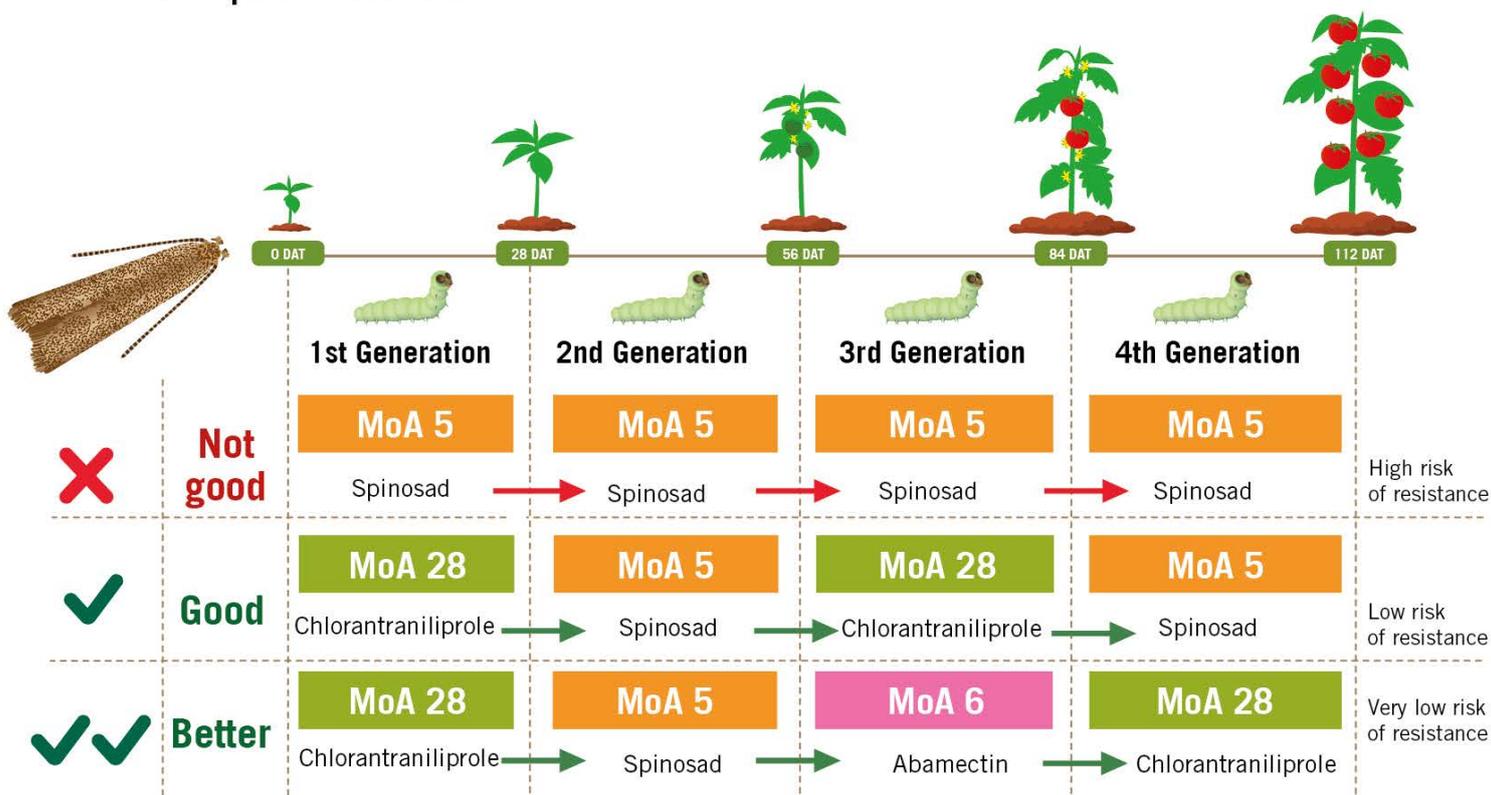
### INTERVENTION: What to do when *Tuta absoluta* is present?

- » Removal and destruction of infested leaves and fruits
- » Weeding
- » Mass trapping with sex pheromone lures, sweet traps and/or light traps
- » Biopesticides like neem extract and *Bacillus thuringiensis*
- » Spray insecticides alternately. Always read the label.



# • SAMPLE SPRAY SCHEDULE: alternate MoA groups to prevent resistance

TIPS: apply only when needed; monitor regularly; always follow the product label



Insecticide Mode of Action (MoA) Groups for the Control of *Tuta absoluta* (from IRAC)

MoA Group Number	Common Active Ingredients (e.g.)	MoA Group Number	Common Active Ingredients (e.g.)
5	Spinetoram, Spinosad	22A	Indoxacarb
6	Abamectin, Emamectin benzoate	22B	Metaflumizone
11	<i>Bacillus thuringiensis aizawai</i> , <i>Bacillus thuringiensis kurstaki</i>	28	Chlorantraniliprole, Flubendiamide
13	Chlorfenapyr	UN	Azadiractin (from neem)
18	Chromafenozide, Methoxyfenozide, Tebufenozide		

\* Always check registration of insecticides for *Tuta absoluta* (italicized) and tomato in your country

## Safe handling of insecticide

- Wear protective gear
- Good weather
- Good nozzle
- Wash after spraying

References:  
AVRDC, 2016. [https://avrdc.org/download/publications/from\\_the\\_field/technol/Tuta-revised-flyer.pdf](https://avrdc.org/download/publications/from_the_field/technol/Tuta-revised-flyer.pdf)  
Tuta absoluta information network. <http://www.tutaabsoluta.com/ipmcrsp>

Photo sources: EWS

<http://growhow.eastwestseed.com>

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